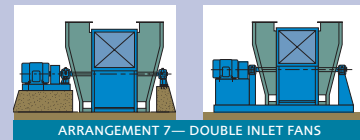
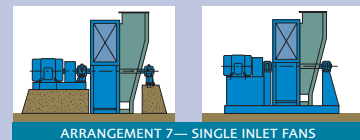
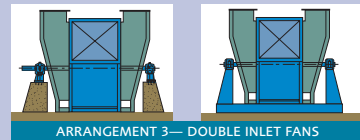
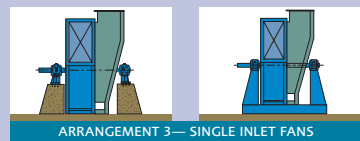
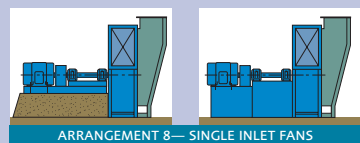
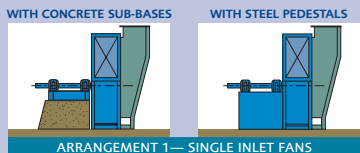
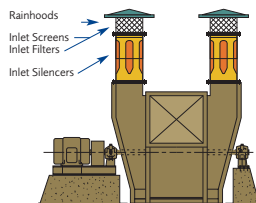


Standard Arrangements

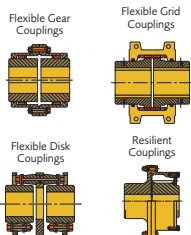
(Available on fans with or without inlet boxes)



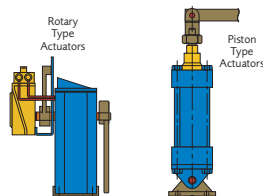
Fan Accessories



FAN INLET ACCESSORIES
for fans with open inlets



FAN SHAFT COUPLINGS
for connection to directed coupled motors
(couplings also available with spacer)



DAMPER ACTUATORS
for variable inlet vane and damper control
(electric or pneumatic)

Proven Heavy-duty Designs

Every air handling and gas processing problem has a particular fan solution which provides the right combination of performance, efficiency, ruggedness and economy. Howden offers proven impeller designs which can be customized to meet the specific requirements of most industrial applications.

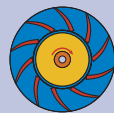
Every fan is custom-designed and built to handle the gas stream characteristics of the application. Computerized fan selection and CAD/CAM systems ensure the best performance and efficiency possible, with guaranteed product quality and reliability.

The following design configurations are available on fans from Howden to meet the most demanding of specifications and requirements.

- Diameters to 4.5 m (180")-single and double inlet
- All AMCA arrangements and discharge/inlet box angles
- Direct, V-belt or variable speed drive arrangements
- Special designs, arrangements and materials for high temperature, explosive abrasive and corrosive gas applications
- Special designs for high pressures

SIZES	to 4.5 m (180") wheel diameter
AIR FLOWS	Single Inlet to 500 m ³ /s (1,000,000 cfm) Double Inlet to 1,000 m ³ /s (2,000,000 cfm)
STATIC PRESSURES	Single-stage to 60 kPa (75" w.g)
TEMPERATURES	AIR to 540° C (1,000° F)
FAN SPEEDS	to 3,600 rpm
STATIC EFFICIENCIES	to 87%

MATERIALS OF CONSTRUCTION
Low and high-carbon steels
Quench and tempered steels
All types of stainless steel
High nickel and titanium alloys
Aluminum and other alloys
Chromium and tungsten coated wearplates

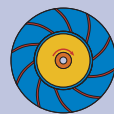


87% PEAK STATIC EFFICIENCY

AEROFOIL IMPELLERS

Design Features:
• Highest efficiency fan design
• Capable of dust loadings to 2.3 grams/Nm³ (1.0 grains/sft³)*

Typical Applications:
• Power plant boiler fans
• Mine and tunnel ventilation
• Flue gas desulphurization fans

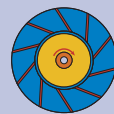


84% PEAK STATIC EFFICIENCY

BACKWARD CURVED IMPELLERS

Design Features:
• Designed to handle dust loads to 35 grams/Nm³ (15 grains/sft³) at high efficiencies*

Typical Applications:
• Mechanical draft FD and ID fans
• Flue gas desulphurisation fans
• Bag-house exhaust fans

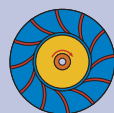


80% PEAK STATIC EFFICIENCY

BACKWARD INCLINED IMPELLERS

Design Features:
• Good efficiency over whole range
• Suitable for dust loads up to 35 grams/Nm³ (15 grains/sft³)*

Typical Applications:
• Pelletizing plant fans
• Incineration exhaust fans
• Bag-house exhaust fans

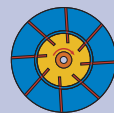


75% PEAK STATIC EFFICIENCY

RADIAL TIPPED IMPELLERS

Design Features:
• Designed for dust loads as high as 69 grams/Nm³ (30 grains/sft³)*
• Reduced build up on blades due to radial tipped design

Typical Applications:
• Gas recirculation fans
• Induced draft fans



73% PEAK STATIC EFFICIENCY

RADIAL BLADED SHROUDED IMPELLERS

Design Features:
• High tip speed capability
• Best fan for high pressure dirty airstreams- up to 114 grams/Nm³ (50 grains/sft³)*

Typical Applications:
• Steel/iron processing fans
• High pressure fans



63% PEAK STATIC EFFICIENCY

RADIAL BLADED OPEN IMPELLERS

Design Features:
• Ideal for material handling and high-temperature applications
• Capable for dust loadings to 458 grams/Nm³ (200 grains/sft³)*

Typical Applications:
• Coal dust conveying fans
• Cement processing fans

* Dust load values are based on fans with wear equipment handling medium abrasive dust in certain applications. For non-abrasive dust, higher dust loadings may be permitted.

Heavy-duty Custom Centrifugal Fans

Howden's extensive knowledge of fan and blower applications, combined with more than 150 years of experience, makes us a leading manufacturer of air movement equipment. We provide upgrades, repairs, parts and service for fans originally manufactured by the many companies that now form part of Howden.

Howden designs and manufactures heavy-duty centrifugal fans for applications in every part of the world- solving some of industry's toughest air handling and gas processing problems.

Applications include:

- Incineration plants
- Utility boilers
- Energy recovery boilers
- Ore and cement processing
- Steel/iron making furnaces
- API petro-chemical processes
- Pulp and paper processing
- Mine/tunnel ventilation
- Industrial ventilation
- Marine/transport

Through rigorous testing at our research facilities, Howden centrifugal fan designs have been optimized for maximum performance and efficiency. Backed by our long established expertise we are a company dedicated to meeting the needs and demands of the fan market. With a full range of heavy-duty fan designs, our experienced engineering staff can custom fit the right fan to the job - whatever the application and whatever the demands.